THE INSTITUTE OF PAPER CHEMISTRY

Appleton, Wisconsin



# MODIFIED BASE-LINE STUDY ON LINERBOARD

Project 1108-36

Report Two

A Progress Report

to

TECHNICAL DIVISION
FOURDRINIER KRAFT BOARD INSTITUTE, INC.

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# MODIFIED BASE-LINE STUDY ON LINERBOARD

## INTRODUCTION

The modified base-line study on linerboard is a trial program designed to study the feasibility of obtaining reliable profiles of quality for six major grades of linerboard from monthly averages of mill test data obtained routinely on linerboard manufactured on paper machines within the F.K.B.I. membership.

The trial program, as approved by the Technical Division at their meeting on September 22, 1966, covers the period from April 1, 1966 to March 31, 1967. The preliminary report prepared at the Institute for the September 22nd meeting summarized data submitted for the months of April and May. The members of the Technical Division agreed that this preliminary report was acceptable in format and, therefore, should be accepted officially as the first of the six bimonthly progress reports which will be prepared at the Institute during the twelve-month trial program

The trial program was outlined by a special subcommittee of the Technical Division. They suggested that monthly averages of routine mill quality control data for moisture content, basis weight, caliper, and bursting strength should be reported for individual machines for each of the following six major grades of which at least 1000 tons were produced during a one-month period: 26, 33, 38, 42, 69, and 90 lb. The subcommittee also recommended that basis weight be reported in two ways. (1) as reported, i.e., corresponding to the reported moisture content, and (2) adjusted to a moisture content of 7.8%. The trial program described above was approved by the Technical Division and subsequently implemented by distribution of a data sheet for reporting the desired information to the Institute for compilation.

The current report is a tabulation of data for the months of June and July. Data for the month of June are summarized in Tables I through VI, respectively, and for the month of July in Tables VII through XII, respectively, for the following six major grades of linerboard: 26, 33, 38, 42, 69, and 90 lb. June and July data for each of these six grades are presented graphically in the following figures.

| Property | Figure Number | |
|---|---|---|
| | June | July |
| Moisture content | 1 | 5 |
| Adjusted basis weight | 2 | 6 |
| Caliper | 3 | 7 |
| Bursting strength | 4 | 8 |

Data submitted by the participants relative to conditioning and testing environments are summarized in Table XIII.

TABLE I

AVERAGES FOR JUNE, 1966, OF ROUTINE MILL QUALITY CONTROL DATA FOR 26-LE FOURDRINIER KRAFT LINERBOARD

| Machine code | B | C | F | H | J | M | N | U | W | CC | DD | Cur FKI Av. | Cum. FKI Av. | FKI Index, %[a] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reported moisture content, % | | | | | | | | | | | | | | |
| Cur machine av | 5 9 | 5.4 | 5.5 | 5 4 | 5.4 | 4.8 | 5 3 | 6 5 | 5 0 | 4.8 | 5 2 | 5 4 | 5.2 | 103 8 |
| Cum. machine av | -- | 5 3 | 5 1 | 5.6 | 5 6 | 4 6 | 5 5 | 6 5 | 4 8 | -- | 4 4 | | | |
| Machine factor, %[b] | -- | 101.9 | 107.8 | 96.4 | 96 4 | 104 3 | 96.4 | 100 0 | 104.2 | -- | 118.2 | | | |
| Machine index, %[c] | 113 5 | 103 8 | 105 8 | 103.8 | 103 8 | 92 3 | 101.9 | 125 0 | 96.2 | 92.3 | 100 0 | | | |
| Reported basis weight, lb /M ft.$^2$ | | | | | | | | | | | | | | |
| Cur machine av | 26 5 | 26 4 | 26.2 | 27.0 | 26 6 | 26.3 | 26.6 | 26 9 | 25.8 | 26 3 | 26 9 | 26.5 | 26 8 | 98.9 |
| Cum machine av | -- | 26.8 | 26.3 | 26.4 | 26.8 | 26 2 | 27.0 | 26 6 | 26.0 | -- | 26.9 | | | |
| Machine factor, %[b] | -- | 98.5 | 99 6 | 102 3 | 99 3 | 100 4 | 98.5 | 101 1 | 99.2 | -- | 100.0 | | | |
| Machine index, %[c] | 98 9 | 98 5 | 97 8 | 100 7 | 99 3 | 98 1 | 99.3 | 100 4 | 96.3 | 98 1 | 100.4 | | | |
| Adjusted basis weight, lb /M ft.$^2$[d] | | | | | | | | | | | | | | |
| Cur machine av | 27.1 | 27.1 | 26 9 | 27 7 | 27 3 | 27.2 | 27 3 | 27.3 | 26.6 | 27 2 | 27 7 | 27 2 | 27 4 | 99.3 |
| Cum. machine av. | -- | 27.6 | 27 1 | 27.0 | 27 4 | 27.1 | 27.7 | 27.0 | 26.8 | -- | 27 9 | | | |
| Machine factor, %[b] | -- | 98.2 | 99.3 | 102.6 | 99 6 | 100.4 | 98.6 | 101.1 | 99 3 | -- | 99.3 | | | |
| Machine index, %[c] | 98 9 | 98.9 | 98.2 | 101.1 | 99.6 | 99.3 | 99 6 | 99 6 | 97.1 | 99 3 | 101.1 | | | |
| Reported caliper, pt | | | | | | | | | | | | | | |
| Cur machine av. | 7 5 | 7 8 | 7 3 | 7.5 | 8.5 | 7.9 | 8 9 | 7.7 | 8.5 | 7.8 | 7 5 | 7.9 | 8 2 | 96.3 |
| Cum machine av. | -- | 8 0 | 7.5 | 7 5 | 8 8 | 7 6 | 8 8 | 7 5 | 8.0 | -- | 7.4 | | | |
| Machine factor, %[b] | -- | 97 5 | 97 3 | 100 0 | 96 6 | 103 9 | 101.1 | 102 7 | 106 2 | -- | 101 4 | | | |
| Machine index, %[c] | 91 5 | 95 1 | 89 0 | 91.5 | 103 7 | 96 3 | 108.5 | 93 9 | 103 7 | 95 1 | 91 5 | | | |
| Reported bursting strengtn, p s i | | | | | | | | | | | | | | |
| Cur. machine av. | 68 | 68 | 79 | 66 | 69 | 62 | 75 | 69 | 70 | 79 | 67 | 70 | 71 | 98 6 |
| Cum machine av. | -- | 70 | 78 | 66 | 72 | 68 | 76 | 69 | 69 | -- | 65 | | | |
| Machine factor, %[b] | -- | 97 1 | 101 3 | 100 0 | 95.8 | 91 2 | 98 7 | 100 0 | 101 4 | -- | 103 1 | | | |
| Machine index, %[c] | 95 8 | 95 8 | 111 3 | 93.0 | 97 2 | 87 3 | 105 6 | 97 2 | 98.6 | 111 3 | 94 4 | | | |

[a] FKI index, % = [cur FKI av /cum. FKI av ] x 100

[b] Machine factor, % = [cur machine av /cum machine av ] x 100.

[c] Machine index, % = [cur machine av /cum. FKI av.] x 100.

[d] Reported basis weight average adjusted to moisture content of 7 8% by the following formula
basis weight adjusted to 7 8% moisture content = basis weight at reported moisture content x % fiber at reported moisture content/% fiber at 7 8% moisture content

Note: No data were submitted for this grade for the following machines A, D, E, G, I, K, L, O, P, Q, R, S T, V, X, Y, Z, AA, BB, EE, and FF.

TABLE II

AVERAGES FOR JUNE, 1966, OF ROUTINE MILL QUALITY CONTROL DATA FOR 33-LB FOURDRINIER KRAFT LINERBOARD

| Machine code | A | C | D | F | H | J | N | T | U | W | CC | DD | FF | Cur FKI Av | Cum. FKI Av. | FKI Index, %[a] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reported moisture content, % | | | | | | | | | | | | | | | | |
| Cur. machine av | 6 2 | 6 1 | 6.5 | 5.4 | 5 6 | 5.7 | 5.9 | 6 9 | 6 4 | 5 0 | 4 9 | 5.4 | 4.3 | 5 7 | 5.6 | 101 8 |
| Cum machine av | 6.1 | 5 7 | 6 4 | -- | 5.6 | 5 6 | -- | -- | 6 8 | 5.0 | -- | 5.6 | 3 7 | | | |
| Machine factor, %[b] | 101 6 | 107 0 | 101 6 | -- | 100 0 | 101 8 | -- | -- | 94 1 | 100.0 | -- | 96.4 | 116 2 | | | |
| Machine index, %[c] | 110 7 | 108 9 | 116 1 | 96 4 | 100 0 | 101 8 | 105 4 | 123 2 | 114 3 | 89 3 | 87 5 | 96.4 | 76 8 | | | |
| Reported basis weight, lb /M ft.[2] | | | | | | | | | | | | | | | | |
| Cur machine av | 32 8 | 33.0 | 33 9 | 33.0 | 33 3 | 33 5 | 33 0 | 33.2 | 33 2 | 32 2 | 32 4 | 33.7 | 33 3 | 33 1 | 33 3 | 99 4 |
| Cum machine av | 33 8 | 33.2 | 33.6 | -- | 33 4 | 33.6 | -- | -- | 33 3 | 32.1 | -- | 33 9 | 33 8 | | | |
| Machine factor, %[b] | 97.0 | 99 4 | 100 9 | -- | 99 7 | 99 7 | -- | -- | 99 7 | 100 3 | -- | 99 4 | 98 5 | | | |
| Machine index, %[c] | 98 5 | 99 1 | 101 8 | 99 1 | 100.0 | 100 6 | 99 1 | 99 7 | 99 7 | 96 7 | 97 3 | 101 2 | 100 0 | | | |
| Adjusted basis weight, lb /M ft [2][d] | | | | | | | | | | | | | | | | |
| Cur machine av | 33 4 | 33 6 | 34 4 | 33 9 | 34 1 | 34 3 | 33 7 | 33 5 | 33 7 | 33.2 | 33 4 | 34 6 | 34 6 | 33 9 | 34 1 | 99 4 |
| Cum machine av | 34 4 | 33 9 | 34 0 | -- | 34.2 | 34 4 | -- | -- | 33 7 | 33.0 | -- | 34 7 | 35 3 | | | |
| Machine factor, %[b] | 97 1 | 99 1 | 101 2 | -- | 99 7 | 99 7 | -- | -- | 100 0 | 100 0 | -- | 99 7 | 98 0 | | | |
| Machine index, %[c] | 97.9 | 98 5 | 100 9 | 99 4 | 100 0 | 100 6 | 98 8 | 98.2 | 98 8 | 97 4 | 97 9 | 101 5 | 101 5 | | | |
| Reported caliper, pt. | | | | | | | | | | | | | | | | |
| Cur machine av | 9 6 | 9 6 | 10 7 | 9 3 | 9 8 | 10 0 | 9 7 | 10 2 | 9 8 | 10 5 | 9 7 | 9.7 | 10 2 | 9 9 | 9 8 | 101 0 |
| Cum machine av | 9 4 | 9 8 | 10 3 | -- | 9 9 | 10 0 | -- | -- | 10 2 | 10 4 | -- | 9 9 | 10 0 | | | |
| Machine factor, %[b] | 102.1 | 98 0 | 103.9 | -- | 99.0 | 100 0 | -- | -- | 96 1 | 101 0 | -- | 98 0 | 102 0 | | | |
| Machine index, %[c] | 98 0 | 98 0 | 109 2 | 94 9 | 100 0 | 102 0 | 99.0 | 104 1 | 100 0 | 107 1 | 99 0 | 99 0 | 104 1 | | | |
| Reported bursting strength, p s i | | | | | | | | | | | | | | | | |
| Cur. machine av | 81 | 82 | 81 | 94 | 84 | 81 | 93 | 90 | 83 | 85 | 93 | 82 | 84 | 86 | 86 | 100 0 |
| Cum machine av | 86 | 80 | 84 | -- | 83 | 82 | -- | -- | 86 | 80 | -- | 80 | 88 | | | |
| Machine factor, %[b] | 94 2 | 102 5 | 96.4 | -- | 101 2 | 98 8 | -- | -- | 96 5 | 106 2 | -- | 102 5 | 95 5 | | | |
| Machine index, %[c] | 94 2 | 95 3 | 94 2 | 109 3 | 97 7 | 94 2 | 108 1 | 104 7 | 96 5 | 98 8 | 108 1 | 95 3 | 97 7 | | | |

[a] FKI index, % = [cur FKI av /cum FKI av.] x 100.
[b] Machine factor, % = [cur machine av /cum machine av ] x 100
[c] Machine index, % = [cur machine av./cum FKI av.] x 100
[d] Reported basis weight average adjusted to moisture content of 7.8% by the following formula
basis weight adjusted to 7 8% moisture content = basis weight at reported moisture content x % fiber at reported moisture content/% fiber at 7 8% moisture content

Note No data were submitted for this grade for the following machines B, E, G, I, K, L, M, O, P, Q, R, S, V, X, Y, Z, AA, EB, and EE

TABLE III

AVERAGES FOR JUNE, 1966, OF ROUTINE MILL QUALITY CONTROL DATA FOR 38-LB. FOURDRINIER KRAFT LINERBOARD

| Machine code | G | I | J | S | T | W | Z | BB | CC | EE | FF | Cur FKI Av. | Cum FKI Av. | FKI Index, %[a] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reported moisture content, % | | | | | | | | | | | | | | |
| Cur. machine av. | 5 4 | 5.5 | 6 6 | 5 3 | 6.9 | 5.9 | 6.5 | 6.8 | 5 1 | 6.5 | 4 6 | 5 9 | 5 9 | 100.0 |
| Cum machine av | 5 4 | 5 6 | 6 4 | 5 4 | 6 0 | 5 9 | 6.6 | 6 1 | -- | 6.5 | 4 3 | | | |
| Machine factor, %[b] | 100 0 | 98 2 | 103 1 | 98 1 | 115 0 | 100 0 | 98 5 | 111 5 | -- | 100 0 | 107 0 | | | |
| Machine index, %[c] | 91 5 | 93 2 | 111 9 | 89 8 | 116 9 | 100 0 | 110 2 | 115 3 | 86 4 | 110 2 | 78 0 | | | |
| Reported basis weight, lb /M ft$^2$ | | | | | | | | | | | | | | |
| Cur machine av | 38.0 | 39 2 | 38 3 | 38 3 | 38.4 | 37.4 | 38.0 | 38 7 | 38 0 | 38.0 | 38 5 | 38 3 | 38.4 | 99 7 |
| Cum machine av. | 38 2 | 39 0 | 38 4 | 38 5 | 39 1 | 37.3 | 37.8 | 38.6 | -- | 38 4 | 38 6 | | | |
| Machine factor, %[b] | 99 5 | 100 5 | 99 7 | 99 5 | 98.2 | 100 3 | 100.5 | 100 3 | -- | 99.0 | 99 7 | | | |
| Machine index, %[c] | 99 0 | 102 1 | 99 7 | 99 7 | 100 0 | 97 4 | 99 0 | 100 8 | 99 0 | 99 0 | 100 3 | | | |
| Adjusted basis weight, lb /M ft.$^2$[d] | | | | | | | | | | | | | | |
| Cur machine av | 39 0 | 40 2 | 38 8 | 39.3 | 38 8 | 38 2 | 38 5 | 39 1 | 39 1 | 38 5 | 39 8 | 39 0 | 39 2 | 99 5 |
| Cum. machine av. | 39 2 | 39 8 | 39 0 | 39 5 | 39 9 | 38.0 | 38 3 | 39 3 | -- | 38 9 | 40 2 | | | |
| Machine factor, %[b] | 99.5 | 101.0 | 99.5 | 99 5 | 97.2 | 100 5 | 100 5 | 99 5 | -- | 99 0 | 99 0 | | | |
| Machine index, %[c] | 99 5 | 102 6 | 99.0 | 100 3 | 99 0 | 97.4 | 98 2 | 99 7 | 99 7 | 98 2 | 101 5 | | | |
| Reported caliper, pt | | | | | | | | | | | | | | |
| Cur machine av | 10 7 | 11 8 | 11 2 | 11 5 | 12 0 | 12 0 | 11 5 | 11.5 | 11 5 | 10 9 | 11.3 | 11 4 | 11 3 | 100.9 |
| Cum machine av | 10.6 | 11.6 | 11 2 | 11 8 | 12 3 | 11 4 | 11.4 | 11 3 | -- | 11 5 | 11 5 | | | |
| Machine factor, %[b] | 100.9 | 101 7 | 100 0 | 97 5 | 97 6 | 105 3 | 100 9 | 101 8 | -- | 94 8 | 98 3 | | | |
| Machine index, %[c] | 94.7 | 104 4 | 99.1 | 101 8 | 106 2 | 106 2 | 101.8 | 101 8 | 101 8 | 96 5 | 100 0 | | | |
| Reported bursting strength, p.s i | | | | | | | | | | | | | | |
| Cur machine av | 103 | 99 | 93 | 94 | 101 | 95 | 98 | 99 | 96 | 95 | 96 | 97 | 98 | 99 0 |
| Cum machine av | 105 | 98 | 94 | 95 | 101 | 96 | 101 | 97 | -- | 95 | 94 | | | |
| Machine factor, %[b] | 98 1 | 101 0 | 98 9 | 98.9 | 100 0 | 99 0 | 97 0 | 102 1 | -- | 100 0 | 102 1 | | | |
| Machine index, %[c] | 105 1 | 101.0 | 94 9 | 95.9 | 103 1 | 96 9 | 100 0 | 101 0 | 98 0 | 96 9 | 98.0 | | | |

[a] FKI index, % = [cur FKI av./cum. FKI av ] x 100
[b] Machine factor, % = [cur machine av./cum. machine av ] x 100
[c] Machine index, % = [cur machine av /cum FKI av ] x 100.
[d] Reported basis weight average adjusted to moisture content of 7.8% by the following formula
basis weight adjusted to 7 8% moisture content = basis weight at reported moisture content x % fiber at reported moisture content/% fiber at 7 8% moisture content

Note No data were submitted for this grade for the following machines A, B, C, D, E, F, H, K, L, M, N, O, P. Q, R, U, V, X, Y, AA, and DD

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original.

TABLE V

AVERAGES FOR JUNE, 1966, OF ROUTINE MILL QUALITY CONTROL DATA FOR 69-LB FOURDRINIER KRAFT LINERBOARD

| Machine code | A | C | D | E | I | J | O | Q | R | T | U | V | X | Y | Z | AA | BB | CC | EE | FF | Cur FKI Av | Cum FKI Av | FKI Index, %[a] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reported moisture content, % | | | | | | | | | | | | | | | | | | | | | | | |
| Cur machine av | 6 4 | 6 9 | 6 0 | 5 8 | 6 4 | 6 3 | 6 5 | 5 8 | 6 0 | 6 9 | 7 0 | 6 0 | 6 4 | 6 9 | 7 8 | 7 0 | 6 5 | 4 9 | 7 1 | 4 6 | 6 4 | 6 4 | 100 0 |
| Cum machine av | 6 4 | 6 5 | 6 2 | 5 9 | 6 5 | 6 4 | 6 6 | 6 0 | 6 2 | 6 3 | 6 9 | 5 9 | 6 6 | 6 3 | 7 8 | 6 7 | 6 5 | -- | 7 0 | 4 4 | | | |
| Machine factor, %[b] | 100 0 | 106 2 | 96 8 | 98 3 | 98 5 | 98 4 | 98 5 | 96 7 | 96 8 | 109 5 | 101 4 | 101 7 | 97 0 | 109 5 | 100 0 | 104 5 | 100 0 | -- | 101 4 | 104 5 | | | |
| Machine index, %[c] | 100 0 | 107 8 | 93 8 | 90 6 | 100 0 | 98 4 | 101 6 | 90 6 | 93 8 | 107 8 | 109 4 | 93 8 | 100 0 | 107 8 | 121 9 | 109 4 | 101 6 | 76 6 | 110 9 | 71 9 | | | |
| Reported basis weight, lb /M ft $^2$ | | | | | | | | | | | | | | | | | | | | | | | |
| Cur machine av | 68 8 | 70 0 | 68 8 | 68 8 | 69 5 | 69 7 | 69 2 | 68 9 | 69 2 | 69 4 | 69 6 | 68 6 | 68 3 | 68 4 | 68 8 | 69 9 | 69 3 | 68 9 | 68 9 | 70 2 | 69 2 | 69 0 | 100 3 |
| Cur machine av | 67 0 | 69 9 | 68 7 | 68 6 | 69 8 | 69 2 | 69 0 | 69 0 | 69 4 | 69 4 | 69 1 | 68 3 | 68 3 | 69 2 | 68 8 | 70 0 | 69 4 | -- | 69 8 | 70 2 | | | |
| Machine factor, %[b] | 102 7 | 100 1 | 100 1 | 100 3 | 99 6 | 100 7 | 100 3 | 99 9 | 99 7 | 100 0 | 100 7 | 100 4 | 100 0 | 98 8 | 100 0 | 99 9 | 99 9 | -- | 98 7 | 100 0 | | | |
| Machine index, %[c] | 99 7 | 101 4 | 99 7 | 99 7 | 100 7 | 101 0 | 100 3 | 99 9 | 100 3 | 100 6 | 100 9 | 99 4 | 99 0 | 99 1 | 99 7 | 101 3 | 100 4 | 99 9 | 99 9 | 101 7 | | | |
| Adjusted basis weight, lb /M ft $^2$[d] | | | | | | | | | | | | | | | | | | | | | | | |
| Cur machine av | 69 8 | 70 7 | 70 2 | 70 3 | 70 5 | 70 8 | 70 2 | 70 4 | 70 6 | 70 1 | 70 2 | 70 0 | 69 3 | 69 1 | 68 8 | 70 5 | 70 3 | 71 0 | 69 5 | 72 7 | 70 2 | 70 1 | 100 1 |
| Cum machine av | 68 0 | 70 8 | 69 9 | 70 0 | 70 8 | 70 2 | 69 8 | 70 4 | 70 6 | 70 6 | 69 8 | 69 7 | 69 2 | 70 3 | 68 8 | 70 8 | 70 4 | -- | 70 4 | 72 8 | | | |
| Machine factor, %[b] | 102 6 | 99 9 | 100 4 | 100 4 | 99 6 | 100 9 | 100 6 | 100 0 | 100 0 | 99 3 | 100 6 | 100 4 | 100 1 | 98 3 | 100 0 | 99 6 | 99 9 | -- | 98 7 | 99 9 | | | |
| Machine index, %[c] | 99 6 | 100 9 | 100 1 | 100 3 | 100 6 | 101 0 | 100 1 | 100 4 | 100 7 | 100 0 | 100 1 | 99 9 | 98 9 | 98 6 | 98 1 | 100 6 | 100 3 | 101 3 | 99 1 | 103 7 | | | |
| Reported caliper, pt | | | | | | | | | | | | | | | | | | | | | | | |
| Cur machine av | 17 3 | 19 7 | 21 3 | 20 0 | 19 5 | 20 5 | 19 1 | 19 0 | 18 7 | 20 2 | 19 8 | 21 0 | 19 3 | 20 2 | 19 3 | 20 0 | 20 8 | 20 5 | 18 5 | 20 0 | 19 7 | 19 7 | 100 0 |
| Cum machine av | 19 3 | 20 0 | 21 3 | 20 0 | 19 0 | 20 4 | 18 8 | 19 4 | 18 8 | 21 2 | 19 6 | 19 4 | 19 2 | 19 7 | 19 8 | 19 2 | 20 6 | -- | 19 5 | 20 7 | | | |
| Machine factor, %[b] | 89 6 | 98 5 | 100 0 | 100 0 | 102 6 | 100 5 | 101 6 | 97 9 | 99 5 | 95 3 | 101 0 | 108 2 | 100 5 | 102 5 | 97 5 | 104 2 | 101 0 | -- | 94 9 | 96 6 | | | |
| Machine index, %[c] | 87 8 | 100 0 | 108 1 | 101 5 | 99 0 | 104 1 | 97 0 | 96 4 | 94 9 | 102 5 | 100 5 | 106 6 | 98 0 | 102 5 | 98 0 | 101 5 | 105 6 | 104 1 | 93 9 | 101 5 | | | |
| Reported bursting strength, p s i | | | | | | | | | | | | | | | | | | | | | | | |
| Cur machine av | 137 | 138 | 140 | 140 | 143 | 140 | 156 | 164 | 148 | 149 | 152 | 139 | 139 | 137 | 145 | 148 | 146 | 144 | 140 | 141 | 144 | 145 | 99 3 |
| Cum machine av | 140 | 142 | 140 | 142 | 142 | 142 | 162 | 161 | 147 | 144 | 158 | 139 | 138 | 135 | 150 | 152 | 145 | -- | 140 | 138 | | | |
| Machine factor, %[b] | 97 9 | 97 2 | 100 0 | 98 6 | 100 7 | 98 6 | 96 3 | 101 9 | 100 7 | 103 5 | 96 2 | 100 0 | 100 7 | 101 5 | 96 7 | 97 4 | 100 7 | -- | 100 0 | 102 2 | | | |
| Machine index, %[c] | 94 5 | 95 2 | 96 6 | 96 6 | 93 6 | 96 6 | 107 6 | 113 1 | 102 1 | 102 8 | 104 8 | 95 9 | 95 9 | 94 5 | 100 0 | 102 1 | 100 7 | 99 3 | 96 6 | 97 2 | | | |

[a] FKI index, % = [cur FKI av /cum FKI av ] x 100
[b] Machine factor, % = [cur machine av /cum machine av ] x 100
[c] Machine index, % = [cur machine av /cum FKI av ] x 100
[d] Reported basis weight average adjusted to moisture content of 7 8% by the following formula
basis weight adjusted to 7 8% moisture content = basis weight at reported moisture content x % fiber at reported moisture content/% fiber at 7 8% moisture content

Note No data were submitted for this grade for the following machines B, F G, H, K, L, M, N, P, S, W, and DD

TABLE VI

AVERAGES FOR JUNE, 1966, OF ROUTINE MILL QUALITY CONTROL DATA FOR 90-LB. FOURDRINIER KRAFT LINERBOARD

| Machine code | C | E | O | P | Q | U | V | X | Z | AA | EE | Cur. FKI Av. | Cum. FKI Av. | FKI Index, %[a] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reported moisture content, % | | | | | | | | | | | | | | |
| Cur. machine av. | 6.8 | 6.0 | 6.5 | 6.6 | 6.4 | 7.3 | 6.1 | 6.5 | 7.8 | 6 7 | 7.1 | 6.7 | 6.8 | 98.5 |
| Cum. machine av. | 7.0 | 6.1 | 6.6 | -- | 6.6 | -- | 6.5 | 6.8 | 7.8 | 6.6 | 7.0 | | | |
| Machine factor, %[b] | 97.1 | 98.4 | 98.5 | -- | 97.0 | -- | 93 8 | 95.6 | 100 0 | 101.5 | 101.4 | | | |
| Machine index, %[c] | 100.0 | 88.2 | 95.6 | 97.1 | 94.1 | 107.4 | 89 7 | 95.6 | 114 7 | 98.5 | 104 4 | | | |
| Reported basis weight, lb./M ft.$^2$ | | | | | | | | | | | | | | |
| Cur. machine av. | 91.0 | 91 2 | 90 0 | 89.9 | 90.0 | 88 7 | 89.3 | 89 4 | 90.4 | 90 6 | 89.9 | 90 0 | 90.0 | 100.0 |
| Cum. machine av. | 91.1 | 89.3 | 89 8 | -- | 89.8 | -- | 88.9 | 89 2 | 90 2 | 91.2 | 90 1 | | | |
| Machine factor, %[b] | 99.9 | 102 1 | 100 2 | -- | 100.2 | -- | 100 4 | 100 2 | 100 2 | 99.3 | 99 8 | | | |
| Machine index, %[c] | 101.1 | 101.3 | 100 0 | 99.9 | 100.0 | 98.6 | 99.2 | 99 3 | 100 4 | 100.7 | 99.9 | | | |
| Adjusted basis weight, lb./M ft.$^2$[d] | | | | | | | | | | | | | | |
| Cur machine av. | 92 0 | 93.0 | 91 3 | 91 1 | 91 4 | 89 1 | 90.9 | 90.7 | 90.4 | 91 7 | 90.6 | 91 1 | 91 0 | 100.1 |
| Cum machine av. | 91 9 | 90.9 | 91 0 | -- | 91.0 | -- | 90 1 | 90.2 | 90 2 | 92.3 | 90.9 | | | |
| Machine factor, %[b] | 100 1 | 102.3 | 100.3 | -- | 100.4 | -- | 100 9 | 100.6 | 100 2 | 99.3 | 99 7 | | | |
| Machine index, %[c] | 101.1 | 102 2 | 100.3 | 100 1 | 100 4 | 97.9 | 99 9 | 99.7 | 99 3 | 100.8 | 99 6 | | | |
| Reported caliper, pt. | | | | | | | | | | | | | | |
| Cur. machine av. | 26.0 | 25.6 | 25.3 | 24.5 | 25.2 | 23.9 | 23 6 | 23.5 | 25.9 | 25.3 | 24.4 | 24.8 | 24.8 | 100.0 |
| Cum machine av | 26.1 | 26 2 | 25.1 | -- | 24.9 | -- | 24.2 | 23.2 | 25.6 | 25.0 | 25 7 | | | |
| Machine factor, %[b] | 99 6 | 97.7 | 100.8 | -- | 101.2 | -- | 97 5 | 101.3 | 101 2 | 101 2 | 94.9 | | | |
| Machine index, %[c] | 104 8 | 103 2 | 102.0 | 98 8 | 101 6 | 96 4 | 95.2 | 94.8 | 104 4 | 102.0 | 98 4 | | | |
| Reported bursting strength, p s i | | | | | | | | | | | | | | |
| Cur machine av. | 170 | 171 | 186 | 195 | 185 | 183 | 161 | 153 | 172 | 177 | 165 | 174 | 175 | 99 4 |
| Cum. machine av. | 167 | 170 | 190 | -- | 194 | -- | 158 | 156 | 176 | 178 | 166 | | | |
| Machine factor, %[b] | 101.8 | 100.6 | 97 9 | -- | 95.4 | -- | 101 9 | 98 1 | 97 7 | 99 4 | 99 4 | | | |
| Machine index, %[c] | 97.1 | 97 7 | 106.3 | 111.4 | 105.7 | 104.6 | 92.0 | 87 4 | 98 3 | 101 1 | 94 3 | | | |

[a] FKI index, % = [cur FKI av./cum FKI av.] x 100.
[b] Machine factor, % = [cur. machine av./cum machine av ] x 100.
[c] Machine index, % = [cur machine av./cum FKI av.] x 100.
[d] Reported basis weight average adjusted to moisture content of 7.8% by the following formula:
basis weight adjusted to 7 8% moisture content = basis weight at reported moisture content x % fiber at reported moisture content/% fiber at 7 8% moisture content.

Note No data were submitted for this grade for the following machines A, B, D, F, G, H, I, J, K, L, M, N, R, S, T, W, Y, BB, CC, DD, and FF.

TABLE VII

AVERAGES FOR JULY, 1966, OF ROUTINE MILL QUALITY CONTROL DATA FOR 26-LB. FOURDRINIER KRAFT LINERBOARD

| Machine code | B | C | D | F | H | J | U | W | CC | DD | Cur FKI Av. | Cum FKI Av. | FKI Index, %[a] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reported moisture content, % | | | | | | | | | | | | | |
| Cur machine av | 6.0 | 5.5 | 4.9 | 5.5 | 5 5 | 5.5 | 6.8 | 5.0 | 5.6 | 5.2 | 5.6 | 5.3 | 105.7 |
| Cum machine av. | 5 9 | 5 3 | 4.9 | 5.2 | 5 5 | 5.6 | 6.5 | 4.8 | 4 8 | 4.8 | | | |
| Machine factor, %[b] | 101 7 | 103 8 | 100.0 | 105.8 | 100 0 | 98.2 | 104.6 | 104 2 | 116.7 | 108 3 | | | |
| Machine index, %[c] | 113 2 | 103.8 | 92.5 | 103 8 | 103 8 | 103.8 | 128 3 | 94.3 | 105 7 | 98.1 | | | |
| Reported basis weight, lb /M ft $^2$ | | | | | | | | | | | | | |
| Cur machine av. | 26.2 | 26 8 | 29.2 | 26.1 | 26.2 | 27.1 | 26 9 | 26 C | 25.8 | 27.3 | 26.8 | 26.7 | 100 4 |
| Cum machine av. | 26 5 | 26.7 | 28 4 | 26 3 | 26.6 | 26 7 | 26 8 | 25.9 | 26 3 | 26.9 | | | |
| Machine factor, %[b] | 98 9 | 100 4 | 102 8 | 99 2 | 98 5 | 101 5 | 100 4 | 100 4 | 98 1 | 101.5 | | | |
| Machine index, %[c] | 98.1 | 100.4 | 109 4 | 97.8 | 98.1 | 101 5 | 100.7 | 97.4 | 96.6 | 102.2 | | | |
| Adjusted basis weight, lb /M ft.$^2$[d] | | | | | | | | | | | | | |
| Cur machine av | 26.7 | 27 5 | 30 1 | 26.8 | 26.9 | 27.8 | 27 2 | 26 8 | 26.4 | 28.1 | 27.4 | 27 4 | 100 0 |
| Cum machine av | 27 1 | 27 4 | 29.2 | 27 0 | 27 3 | 27.3 | 27.2 | 26.8 | 27.2 | 27 8 | | | |
| Machine factor, %[b] | 98.5 | 100 4 | 103 1 | 99 3 | 98.5 | 101.8 | 100.0 | 100 0 | 97 1 | 101 1 | | | |
| Machine index, %[c] | 97.4 | 100 4 | 109 9 | 97 8 | 98.2 | 101 5 | 99 3 | 97 8 | 96 4 | 102 6 | | | |
| Reported caliper, pt. | | | | | | | | | | | | | |
| Cur. machine av | 7.4 | 7.7 | 10 6 | 7.6 | 7 4 | 8.6 | 7.8 | 8 7 | 7 7 | 7 4 | 8 1 | 8.1 | 100.0 |
| Cum. machine av. | 7 5 | 7.9 | 9 8 | 7.4 | 7.5 | 8.7 | 7.6 | 8.2 | 7.8 | 7.4 | | | |
| Machine factor, %[b] | 98 7 | 97.5 | 108 2 | 102 7 | 98.7 | 98 9 | 102 6 | 106.1 | 98.7 | 100 0 | | | |
| Machine index, %[c] | 91 4 | 95.1 | 130 9 | 93.8 | 91.4 | 106.2 | 96 3 | 107.4 | 95.1 | 91 4 | | | |
| Reported bursting strength, p s.i | | | | | | | | | | | | | |
| Cur machine av | 68 | 68 | 70 | 78 | 66 | 68 | 69 | 70 | 79 | 67 | 70 | 71 | 98.6 |
| Cum. machine av. | 68 | 69 | 66 | 78 | 66 | 71 | 69 | 69 | 79 | 66 | | | |
| Machine factor, %[b] | 100.0 | 98 6 | 106.1 | 100 0 | 100 0 | 95.8 | 100 0 | 101.4 | 100.0 | 101 5 | | | |
| Machine index, %[c] | 95.8 | 95 8 | 98.6 | 109 9 | 93.0 | 95.8 | 97 2 | 98.6 | 111.3 | 94 4 | | | |

[a] FKI index, % = [cur FKI av./cum FKI av ] x 100
[b] Machine factor, % = [cur machine av /cum machine av ] x 100
[c] Machine index, % = [cur. machine av /cum FKI av.] x 100
[d] Reported basis weight average adjusted to moisture content of 7 8% by the following formula:
basis weight adjusted to 7.8% moisture content = basis weight at reported moisture content x % fiber at reported moisture content/% fiber at 7 8% moisture content

Note No data were submitted for this grade for the following machines A, E, G, I, K, L, M, N, O, P, Q, R, S, T, V, X, Y, Z, AA, BB, EE, and FF

TABLE VIII

AVERAGES FOR JULY, 1966, OF ROUTINE MILL QUALITY CONTROL DATA FOR 33-LB FOURDRINIER KRAFT LINERBOARD

| Machine code | A | C | D | F | G | H | J | S | T | W | CC | FF | Cur FKI Av. | Cum FKI Av. | FKI Index, %[a] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reported moisture content, % | | | | | | | | | | | | | | | |
| Cur machine av | 5.8 | 5.9 | 6.6 | 5.5 | 5 5 | 5.5 | 5.6 | 5.3 | 6.8 | 4 9 | 5 6 | 4.2 | 5.6 | 5.6 | 100 0 |
| Cum machine av | 6 1 | 5.8 | 6.5 | 5 4 | 5 2 | 5 6 | 5.6 | 4.9 | 6.9 | 5.0 | 4 9 | 3.9 | | | |
| Machine factor, %[b] | 95 1 | 101.7 | 101.5 | 101 9 | 105 8 | 98 2 | 100.0 | 108 2 | 98 6 | 98 0 | 114 3 | 107 7 | | | |
| Machine index, %[c] | 103 6 | 105 4 | 117 9 | 98 2 | 98 2 | 98 2 | 100 0 | 94.6 | 121 4 | 87 5 | 100 0 | 75.0 | | | |
| Reported basis weight, lb /M ft $^2$ | | | | | | | | | | | | | | | |
| Cur. machine av | 32 9 | 33.3 | 34.2 | 33.0 | 33 4 | 33 4 | 33 8 | 33 6 | 33.5 | 32.2 | 32 9 | 33 6 | 33.3 | 33.2 | 100.3 |
| Cum machine av. | 33 4 | 33.1 | 33.7 | 33.0 | 33.4 | 33.4 | 33.6 | 33 4 | 33.2 | 32.1 | 32.4 | 33.6 | | | |
| Machine factor, %[b] | 98 5 | 100.6 | 101.5 | 100.0 | 100 0 | 100.0 | 100 6 | 100 6 | 100.9 | 100 3 | 101 5 | 100.0 | | | |
| Machine index, %[c] | 99.1 | 100.3 | 103.0 | 99.4 | 100 6 | 100 6 | 101.8 | 101.2 | 100.9 | 97.0 | 99 1 | 101 2 | | | |
| Adjusted basis weight, lb /M ft $^2$[d] | | | | | | | | | | | | | | | |
| Cur machine av | 33 6 | 34.0 | 34.6 | 33.8 | 34 2 | 34.2 | 34 6 | 34.5 | 33 9 | 33 2 | 33 7 | 34.9 | 34 1 | 34.0 | 100 3 |
| Cum machine av | 34.0 | 33 8 | 34.2 | 33 9 | 34 4 | 34 2 | 34 4 | 34 5 | 33.5 | 33.1 | 33 4 | 35 1 | | | |
| Machine factor, %[b] | 98.8 | 100 6 | 101 2 | 99 7 | 99 4 | 100 0 | 100 6 | 100 0 | 101 2 | 100 3 | 100 9 | 99.4 | | | |
| Machine index, %[c] | 98.8 | 100 0 | 101 8 | 99 4 | 100 6 | 100 6 | 101.8 | 101 5 | 99 7 | 97 6 | 99 1 | 102.6 | | | |
| Reported caliper, pt. | | | | | | | | | | | | | | | |
| Cur. machine av | 9.7 | 9 7 | 9.8 | 9 6 | 9.0 | 9.9 | 9.9 | 10.0 | 10.4 | 10 8 | 9 4 | 10 1 | 9.9 | 9 9 | 100 0 |
| Cur machine av | 9.5 | 9 8 | 10 4 | 9.3 | 9 0 | 9 9 | 10.0 | 10 0 | 10 2 | 10 4 | 9 7 | 10 1 | | | |
| Machine factor, %[b] | 102 1 | 99 0 | 94.2 | 103 2 | 100 0 | 100 0 | 99.0 | 100.0 | 102 0 | 103 8 | 96 9 | 100 0 | | | |
| Machine index, %[c] | 98.0 | 98.0 | 99 0 | 97 0 | 90.9 | 100 0 | 100.0 | 101 0 | 105 1 | 109.1 | 94.9 | 102 0 | | | |
| Reported bursting strength, p.s i | | | | | | | | | | | | | | | |
| Cur machine av | 69 | 81 | 83 | 89 | 90 | 82 | 80 | 86 | 96 | 79 | 93 | 90 | 85 | 86 | 98.8 |
| Cum machine av | 85 | 81 | 83 | 94 | 94 | 83 | 82 | 88 | 90 | 82 | 93 | 87 | | | |
| Machine factor, %[b] | 81 2 | 100 0 | 100 0 | 94 7 | 95.7 | 98 8 | 97 6 | 97.7 | 106 7 | 96.3 | 100 0 | 103.4 | | | |
| Machine index, %[c] | 80 2 | 94 2 | 96 5 | 103 5 | 104 7 | 95 3 | 93 0 | 100.0 | 111 6 | 91 9 | 108 1 | 104 7 | | | |

[a] FKI index, % = [cur FKI av./cum FKI av ] x 100.
[b] Machine factor, % = [cur machine av /cum machine av ] x 100
[c] Machine index, % = [cur machine av /cum. FKI av.] x 100
[d] Reported basis weight average adjusted to moisture content of 7 8% by the following formula
basis weight adjusted to 7 8% moisture content = basis weight at reported moisture content x % fiber at reported moisture content/% fiber at 7 8% moisture content.

Note No data were submitted for this grade for the following machines B, E, I, K, L, M, N, O, P, Q, R, U, V, X, Y, Z, AA, BB, DD, and EE

TABLE IX

AVERAGES FOR JULY, 1966, OF ROUTINE MILL QUALITY CONTROL DATA FOR 38-LB. FOURDRINIER KRAFT LINERBOARD

| Machine code | G | I | J | P | T | U | W | Z | BB | CC | EE | FF | Cur. FKI Av. | Cum FKI Av. | FKI Index, %[a] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reported moisture content, % | | | | | | | | | | | | | | | |
| Cur machine av. | 5 5 | 5 6 | 6 6 | 6 1 | 6 7 | 6.4 | 6.0 | 6.4 | 6.4 | 5 3 | 6.9 | 3 9 | 6.0 | 5.9 | 101.7 |
| Cum machine av. | 5.4 | 5.6 | 6.5 | 5.9 | 6.4 | -- | 5.9 | 6 6 | 6.4 | 5.1 | 6 5 | 4 4 | | | |
| Machine factor, %[b] | 101.9 | 100 0 | 101.5 | 103.4 | 104 7 | -- | 101 7 | 97 0 | 100 0 | 103.9 | 106.2 | 88.6 | | | |
| Machine index, %[c] | 93.2 | 94 9 | 111 9 | 103 4 | 113 6 | 108 5 | 101.7 | 108 5 | 108.5 | 89 8 | 116.9 | 66 1 | | | |
| Reported basis weight, lb /M ft $^2$ | | | | | | | | | | | | | | | |
| Cur machine av. | 38.5 | 38 6 | 38 7 | 37.8 | 38.2 | 38 5 | 37.7 | 38.0 | 38.4 | 38.2 | 38 1 | 39 1 | 38 3 | 38 3 | 100.0 |
| Cum. machine av. | 38.2 | 39.0 | 38.4 | 38.0 | 38.8 | -- | 37 3 | 37 9 | 38 6 | 38.0 | 38.2 | 36 6 | | | |
| Machine factor, %[b] | 100.8 | 99 0 | 100.8 | 99 5 | 98.5 | -- | 101.1 | 100 3 | 99 5 | 100 5 | 99 7 | 101 3 | | | |
| Machine index, %[c] | 100 5 | 100 8 | 101 0 | 98 7 | 99 7 | 100 5 | 98 4 | 99 2 | 100 3 | 99 7 | 99 5 | 102 1 | | | |
| Adjusted basis weight, lb./M ft $^2$[d] | | | | | | | | | | | | | | | |
| Cur machine av | 39.5 | 39.5 | 39.2 | 38.5 | 38.7 | 39.1 | 38.5 | 38.6 | 39 0 | 39 2 | 38 5 | 40 7 | 39 1 | 39 1 | 100 0 |
| Cum machine av | 39.2 | 40 0 | 38 9 | 38 8 | 39 4 | -- | 38 1 | 38.4 | 39 2 | 39 1 | 38 7 | 40 0 | | | |
| Machine factor, %[b] | 100 8 | 98 8 | 100 8 | 99 2 | 98 2 | -- | 101 0 | 100 5 | 99 5 | 100 3 | 99 5 | 101 8 | | | |
| Machine index, %[c] | 101 0 | 101 0 | 100 3 | 98 5 | 99 0 | 100 0 | 98 5 | 98 7 | 99 7 | 100 3 | 98 5 | 104 1 | | | |
| Reported caliper, pt. | | | | | | | | | | | | | | | |
| Cur machine av. | 10.7 | 11.3 | 11 0 | 10 2 | 11 7 | 11.2 | 11 8 | 11 2 | 11 6 | 11 3 | 10.8 | 11 9 | 11.2 | 11.3 | 99 1 |
| Cum machine av | 10 7 | 11.6 | 11.2 | 10 2 | 12.2 | -- | 11 6 | 11 4 | 11.4 | 11 5 | 11 2 | 11 4 | | | |
| Machine factor, %[b] | 100 0 | 97 4 | 98.2 | 100 0 | 95.9 | -- | 101 7 | 98.2 | 101 8 | 98 3 | 96 4 | 104 4 | | | |
| Machine index, %[c] | 94.7 | 100 0 | 97 3 | 90.3 | 103 5 | 99 1 | 104 4 | 99 1 | 102 7 | 100 0 | 95.6 | 105 3 | | | |
| Reported bursting strength, p.s.i. | | | | | | | | | | | | | | | |
| Cur. machine av. | 106 | 102 | 93 | 112 | 104 | 101 | 99 | 96 | 100 | 110 | 95 | 96 | 101 | 98 | 103.1 |
| Cum. machine av | 104 | 99 | 94 | 109 | 101 | -- | 95 | 100 | 98 | 96 | 95 | 95 | | | |
| Machine factor, %[b] | 101.9 | 103 0 | 98.9 | 102 8 | 103 0 | -- | 104 2 | 96 0 | 102.0 | 114 6 | 100 0 | 101 1 | | | |
| Machine index, %[c] | 108 2 | 104 1 | 94 9 | 114 3 | 106.1 | 103 1 | 101 0 | 98 0 | 102 0 | 112 2 | 96.9 | 98 0 | | | |

[a] FKI index, % = [cur FKI av /cum FKI av.] x 100
[b] Machine factor, % = [cur. machine av /cum. machine av ] x 100
[c] Machine index, % = [cur machine av /cum FKI av.] x 100
[d] Reported basis weight average adjusted to moisture content of 7.8% by the following formula
basis weight adjusted to 7 8% moisture content = basis weight at reported moisture content x % fiber at reported moisture content/% fiber at 7 8% moisture content.

Note No data were submitted for this grade for the following machines A, B, C, D, E, F, H, K, L, M, N, O, Q, R, S, V, X, Y, AA, and DD.

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Refer to original.

TABLE XI

AVERAGES FOR JULY, 1966, OF ROUTINE MILL QUALITY CONTROL DATA FOR 69-LB FOURDRINIER KRAFT LINERBOARD

| Machine code | A | C | D | E | I | J | L | M | O | Q | R | T | U | V | X | Y | Z | AA | BB | EE | FF | Cur FKI A | Cum FKI A | FKI Index, %[a] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reported moisture content, % | | | | | | | | | | | | | | | | | | | | | | | | |
| Cur machine av | 6 3 | 7 0 | 5 9 | 5 8 | 6 4 | 6 1 | 6 5 | 5 9 | 6 7 | 5 5 | 6 5 | 6 8 | 7 0 | 5 7 | 6 4 | 6 2 | 8 1 | 6 0 | 7 3 | 7 - | 1 6 | 6 4 | 6 4 | 100 0 |
| Cum machine av | 6 4 | 6 6 | 6 1 | 5 9 | 6 5 | 6 3 | -- | 5 6 | 6 5 | 5 9 | 6 1 | 6 5 | 6 9 | 5 9 | 6 5 | 6 5 | 7 8 | 6 8 | 6 5 | 7 0 | 1 5 | | | |
| Machine factor, %[b] | 98 4 | 106 1 | 96 7 | 98 3 | 98 5 | 96 8 | -- | 105 4 | 103 1 | 93 2 | 106 6 | 104 6 | 101 4 | 96 6 | 98 5 | 95 4 | 103 8 | 97 1 | 112 3 | 105 7 | 100 7 | | | |
| Machine index, %[c] | 98 4 | 109 4 | 92 2 | 90 6 | 100 0 | 95 3 | 101 6 | 92 2 | 104 7 | 85 9 | 101 6 | 106 2 | 109 4 | 89 1 | 100 0 | 96 9 | 126 6 | 103 1 | 111 1 | 115 0 | 75 0 | | | |
| Reported basis weight, lb /M ft$^2$ | | | | | | | | | | | | | | | | | | | | | | | | |
| Cur machine av | 68 1 | 70 0 | 69 0 | 69 0 | 69 1 | 69 6 | 69 8 | 68 5 | 69 2 | 68 8 | 69 1 | 69 6 | 69 6 | 67 9 | 68 1 | 67 9 | 69 2 | 70 2 | 69 5 | 69 2 | 71 1 | 69 2 | 69 1 | 100 1 |
| Cum machine av | 67 6 | 69 9 | 68 7 | 68 7 | 69 7 | 69 4 | -- | 68 5 | 69 0 | 68 9 | 69 3 | 69 4 | 69 3 | 68 - | 68 3 | 68 9 | 68 8 | 69 9 | 69 - | 69 - | 70 2 | | | |
| Machine factor, %[b] | 100 7 | 100 1 | 100 4 | 100 - | 99 1 | 100 3 | -- | 100 0 | 100 3 | 99 9 | 99 7 | 100 3 | 100 4 | 99 3 | 99 7 | 98 5 | 100 0 | 100 4 | 100 1 | 99 7 | 101 3 | | | |
| Machine index, %[c] | 98 6 | 101 3 | 99 9 | 99 9 | 100 0 | 100 7 | 101 0 | 99 1 | 100 1 | 99 6 | 100 0 | 100 7 | 100 7 | 98 3 | 98 6 | 98 3 | 100 1 | 101 6 | 100 6 | 100 - | 132 9 | | | |
| Adjusted basis weight, lb /M ft$^2$[d] | | | | | | | | | | | | | | | | | | | | | | | | |
| Cur machine av | 69 2 | 70 0 | 70 4 | 70 5 | 70 1 | 70 9 | 70 8 | 69 9 | 70 0 | 70 5 | 70 1 | 70 4 | 70 2 | 69 5 | 69 1 | 69 1 | 69 0 | 71 1 | 69 8 | 69 5 | 73 4 | 70 2 | 70 1 | 100 1 |
| Cum machine av | 68 6 | 70 8 | 70 0 | 70 1 | 70 7 | 70 4 | -- | 70 2 | 70 0 | 70 4 | 70 6 | 70 4 | 69 9 | 69 8 | 69 2 | 69 9 | 68 8 | 70 7 | 70 4 | 70 0 | 72 8 | | | |
| Machine factor, %[b] | 100 9 | 99 7 | 100 6 | 100 6 | 99 2 | 100 7 | -- | 99 6 | 100 0 | 100 1 | 99 3 | 100 0 | 100 4 | 98 6 | 99 9 | 98 9 | 100 3 | 100 6 | 99 1 | 99 3 | 100 8 | | | |
| Machine index, %[c] | 98 7 | 100 7 | 100 4 | 100 6 | 100 0 | 101 1 | 101 0 | 99 7 | 99 9 | 100 6 | 100 0 | 100 4 | 100 1 | 99 1 | 98 6 | 98 6 | 98 4 | 101 4 | 99 6 | 99 1 | 104 7 | | | |
| Reported caliper, pt | | | | | | | | | | | | | | | | | | | | | | | | |
| Cur machine a | 19 1 | 19 8 | 21 2 | 19 9 | 18 9 | 20 9 | 17 8 | 19 0 | 18 8 | 19 3 | 18 8 | 20 4 | 20 0 | 19 8 | 19 4 | 19 6 | 19 7 | 19 0 | 20 4 | 19 1 | 20 4 | 19 6 | 19 7 | 99 5 |
| Cum machine av | 18 6 | 19 9 | 21 3 | 20 0 | 19 1 | 20 4 | -- | 18 8 | 18 9 | 19 3 | 18 8 | 20 9 | 19 7 | 19 9 | 19 2 | 19 9 | 19 6 | 19 5 | 20 7 | 19 0 | 20 5 | | | |
| Machine factor, %[b] | 102 7 | 99 5 | 99 5 | 99 5 | 99 0 | 102 5 | -- | 101 1 | 99 5 | 100 0 | 100 0 | 97 6 | 101 5 | 99 5 | 101 0 | 98 5 | 100 5 | 97 - | 98 6 | 100 5 | 99 5 | | | |
| Machine index %[c] | 97 0 | 100 5 | 107 6 | 101 0 | 95 9 | 106 1 | 90 4 | 96 4 | 95 4 | 98 0 | 95 4 | 103 6 | 101 5 | 100 5 | 98 5 | 99 5 | 100 0 | 95 4 | 103 6 | 97 0 | 103 6 | | | |
| Reported bursting strength, p s i | | | | | | | | | | | | | | | | | | | | | | | | |
| Cur machine a | 142 | 139 | 137 | 136 | 141 | 142 | 144 | 136 | 162 | 151 | 153 | 157 | 156 | 139 | 137 | 135 | 147 | 152 | 144 | 140 | 141 | 144 | 145 | 99 3 |
| Cum machine av | 139 | 141 | 140 | 142 | 143 | 142 | -- | 137 | 160 | 162 | 147 | 145 | 156 | 139 | 138 | 136 | 149 | 151 | 146 | 1 0 | 139 | | | |
| Machine factor, %[b] | 102 2 | 98 6 | 97 9 | 95 8 | 98 0 | 100 0 | -- | 99 3 | 101 2 | 93 2 | 104 1 | 108 3 | 100 0 | 100 0 | 99 3 | 99 3 | 98 7 | 100 7 | 98 6 | 100 0 | 101 4 | | | |
| Machine index, %[c] | 97 9 | 95 9 | 94 5 | 93 8 | 97 2 | 97 9 | 99 3 | 93 8 | 111 7 | 104 1 | 105 5 | 108 3 | 107 6 | 95 9 | 94 5 | 93 1 | 101 4 | 104 8 | 99 3 | 96 0 | 97 2 | | | |

[a] FKI index, % = [cur FKI av /cum FKI av ] x 100
[b] Machine factor % = [cur machine av /cum machine av ] x 100
[c] Machine index % = [cur machine av /cum FKI av ] x 100
[d] Reported basis weight average adjusted to moisture content of 7 8% by the following formula
basis weight adjusted to 7 8% moisture content = basis weight at reported moisture content x % fiber at reported moisture content/% fiber at 7 8% moisture content

Note No data were submitted for this grade for the following machines B, F, G, H, K N, P, S, W, CC, and DD

TABLE XII

AVERAGES FOR JULY, 1966, OF ROUTINE MILL QUALITY CONTROL DATA FOR 90-LB. FOURDRINIER KRAFT LINERBOARD

| Machine code | Q | V | X | Z | AA | Cur. FKI Av. | Cum. FKI Av. | FKI Index, %[a] |
|---|---|---|---|---|---|---|---|---|
| Reported moisture content, % | | | | | | | | |
| Cur. machine av. | 6.2 | 5.8 | 6.5 | 7.7 | 6.4 | 6.5 | 6.7 | 97.0 |
| Cum. machine av. | 6.5 | 6.3 | 6.7 | 7.8 | 6.7 | | | |
| Machine factor, %[b] | 95.4 | 92.1 | 97.0 | 98.7 | 95.5 | | | |
| Machine index, %[c] | 92.5 | 86.6 | 97.0 | 114.9 | 95.5 | | | |
| Reported basis weight, lb./M ft.$^2$ | | | | | | | | |
| Cur. machine av. | 90.2 | 88.9 | 89.1 | 89.9 | 91.2 | 89.9 | 90.0 | 99.9 |
| Cum. machine av. | 89.8 | 89.1 | 89.3 | 90.3 | 91.0 | | | |
| Machine factor, %[b] | 100.4 | 99.8 | 99.8 | 99.6 | 100.2 | | | |
| Machine index, %[c] | 100.2 | 98.8 | 99.0 | 99.9 | 101.3 | | | |
| Adjusted basis weight, lb./M ft.$^2$[d] | | | | | | | | |
| Cur. machine av. | 91.7 | 90.9 | 90.3 | 90.0 | 92.6 | 91.1 | 91.0 | 100.1 |
| Cum. machine av. | 91.1 | 90.5 | 90.4 | 90.3 | 92.1 | | | |
| Machine factor, %[b] | 100.7 | 100.4 | 99.9 | 99.7 | 100.5 | | | |
| Machine index, %[c] | 100.8 | 99.9 | 99.2 | 98.9 | 101.8 | | | |
| Reported caliper, pt. | | | | | | | | |
| Cur. machine av. | 24.9 | 23.5 | 23.5 | 25.5 | 25.0 | 24.5 | 24.8 | 98.8 |
| Cum. machine av. | 25.0 | 23.9 | 23.3 | 25.7 | 25.1 | | | |
| Machine factor, %[b] | 99.6 | 98.3 | 100.9 | 99.2 | 99.6 | | | |
| Machine index, %[c] | 100.4 | 94.8 | 94.8 | 102.8 | 100.8 | | | |
| Reported bursting strength, p.s.i. | | | | | | | | |
| Cur. machine av. | 184 | 158 | 156 | 167 | 179 | 169 | 175 | 96.6 |
| Cum. machine av. | 191 | 160 | 155 | 175 | 178 | | | |
| Machine factor, %[b] | 96.3 | 98.8 | 100.6 | 95.4 | 100.6 | | | |
| Machine index, %[c] | 105.1 | 90.3 | 89.1 | 95.4 | 102.3 | | | |

[a] FKI index, % = [cur. FKI av./cum. FKI av.] x 100.
[b] Machine factor, % = [cur. machine av./cum. machine av.] x 100.
[c] Machine index, % = [cur. machine av./cum. FKI av.] x 100.
[d] Reported basis weight average adjusted to moisture content of 7.8% by the following formula: basis weight adjusted to 7.8% moisture content = basis weight at reported moisture content x % fiber at reported moisture content/% fiber at 7.8% moisture content.

Note: No data were submitted for this grade for the following machines: A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, R, S, T, U, W, Y, BB, CC, DD, EE, and FF.

TABLE XIII

SUMMARY OF DATA ON CONDITIONING AND TESTING ENVIRONMENTS

| Machine Code | Are Quality Samples Conditioned Before Testing? | Are Quality Samples Tested Under Controlled Conditions? |
|---|---|---|
| A | Yes. 48 hours | Yes: 50±1% R.H., 72±1°F. |
| B | Yes. 48 hours | Yes. 50±1% R.H., 72±1°F. |
| C | No | No |
| D | No | Yes: 60±2% R.H., 70±2°F. |
| E | No | Yes: 50±2% R.H., 73± 3.5°F. |
| F | No | Yes: 50±2% R.H., 73± 3 5°F. |
| G | No | Yes 50±2% R.H., 73°F. |
| H | No | Yes. 50±10% R.H., 73±4°F. |
| I | No | Yes. 50±10% R.H., 73±4°F. |
| J | No | Yes. 50±1% R.H., 73±1°F. |
| K | No | Yes. 50±2% R.H., 73±3°F. |
| L | No | Yes: 50±2% R.H., 73±3°F. |
| M | No | No |
| N | No | No |
| O | No | No |
| P | No | No |
| Q | No | No |
| R | No | No |
| S | No | No |
| T | No | No |
| U | No | No |
| V | No | No |
| W | No | No |
| X | No | No |
| Y | Yes: 5-20 min. at 50% R.H., 73°F. | Yes: 50% R.H., 73°F. |
| Z | No | No |
| AA | No | Yes 50±2% R.H., 73±1°F. |
| BB | No | Not reported |
| CC | No | No |
| DD | Yes· 5 min. (Rapid conditioner) | Yes. 50± 2% R.H., 72± 3.5°F. |
| EE | No | Yes: 50±2% R.H., 72± 3.5°F. |
| FF | Yes. 50% R.H., 72°F. | Yes: 50±2% R.H., 72±2°F. |

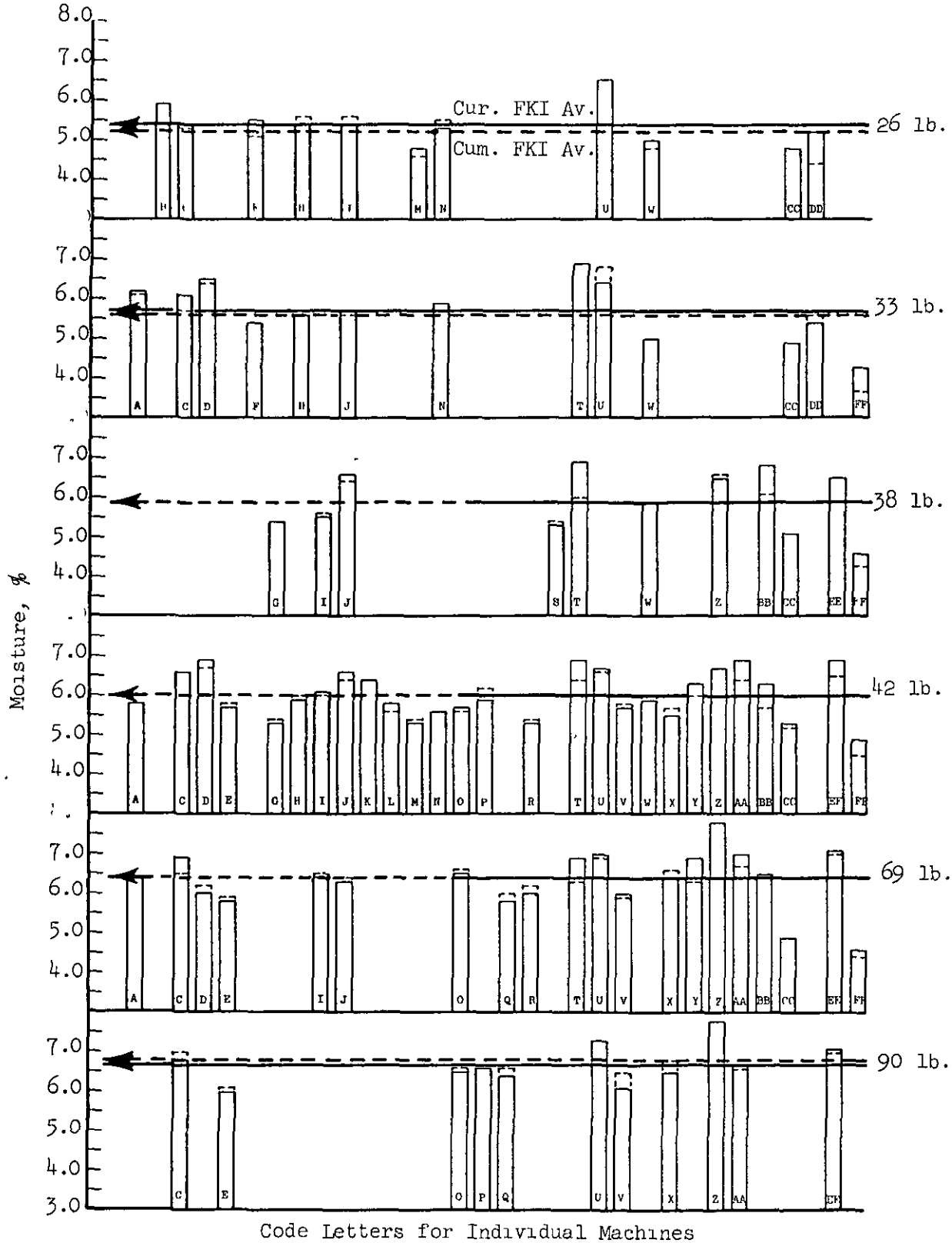


Figure 1. Comparison of Moisture Averages for June, 1966

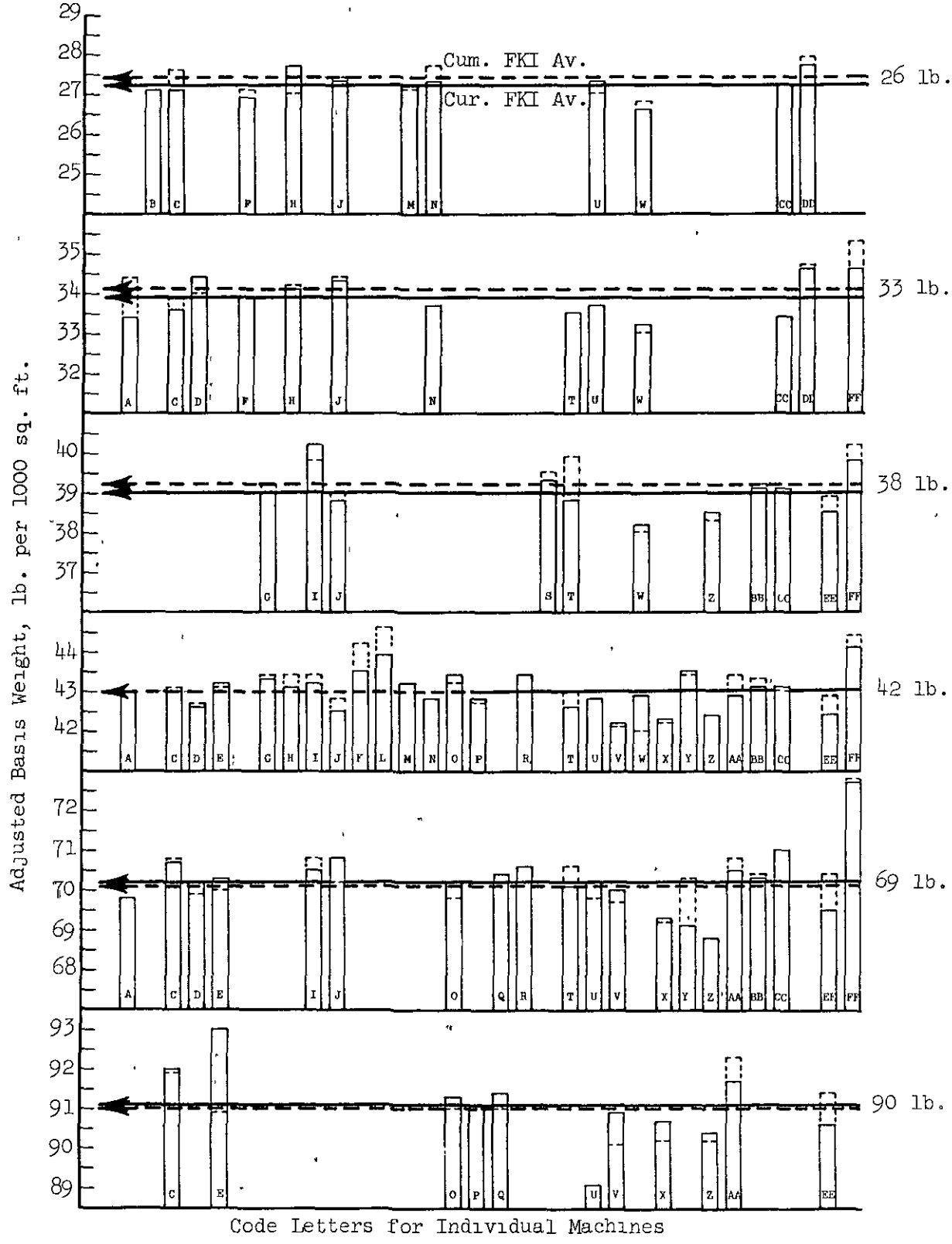


Figure 2. Comparison of Adjusted Basis Weight Averages for June, 1966

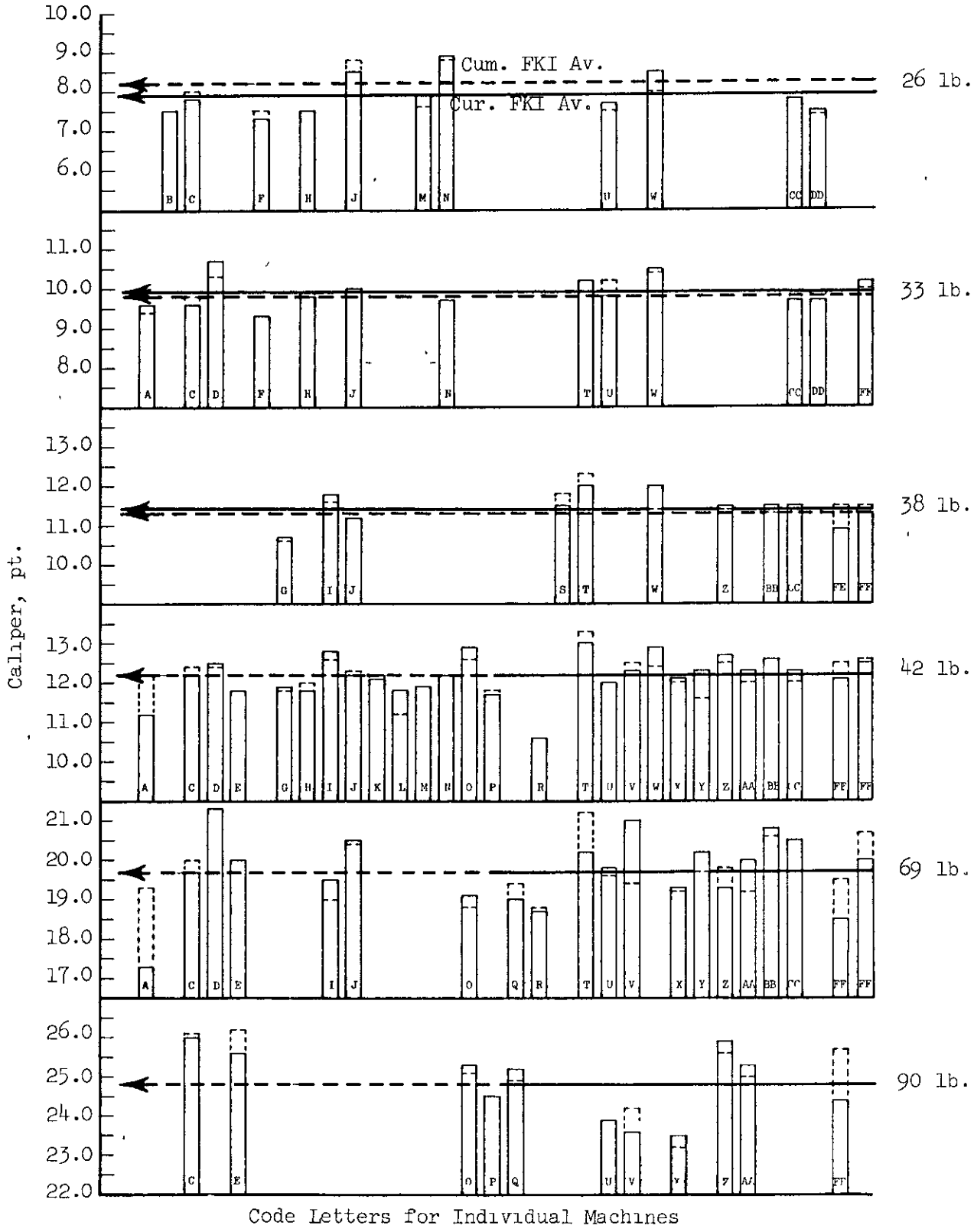


Figure 3. Comparison of Caliper Averages for June, 1966

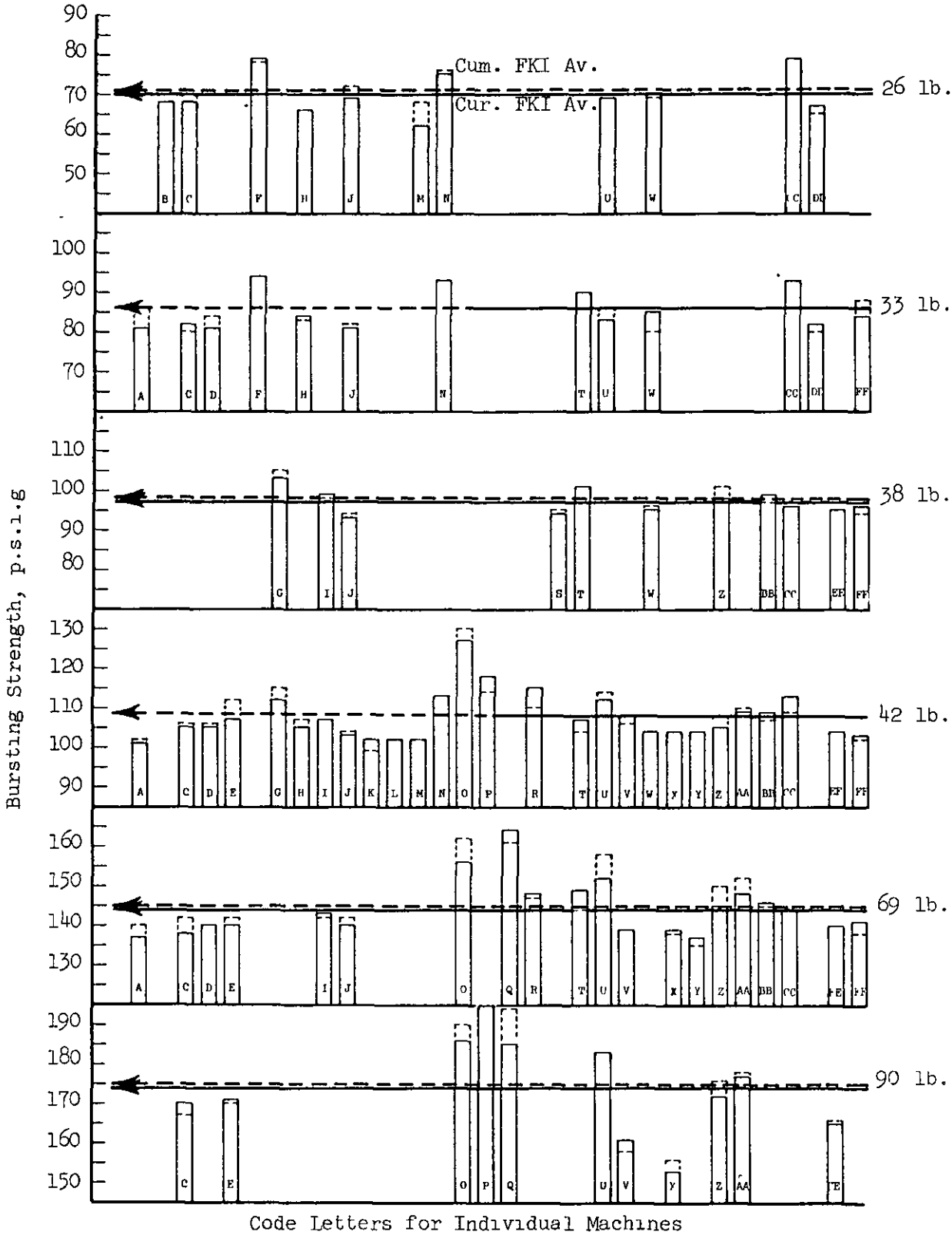


Figure 4. Comparison of Bursting Strength Averages for June, 1966

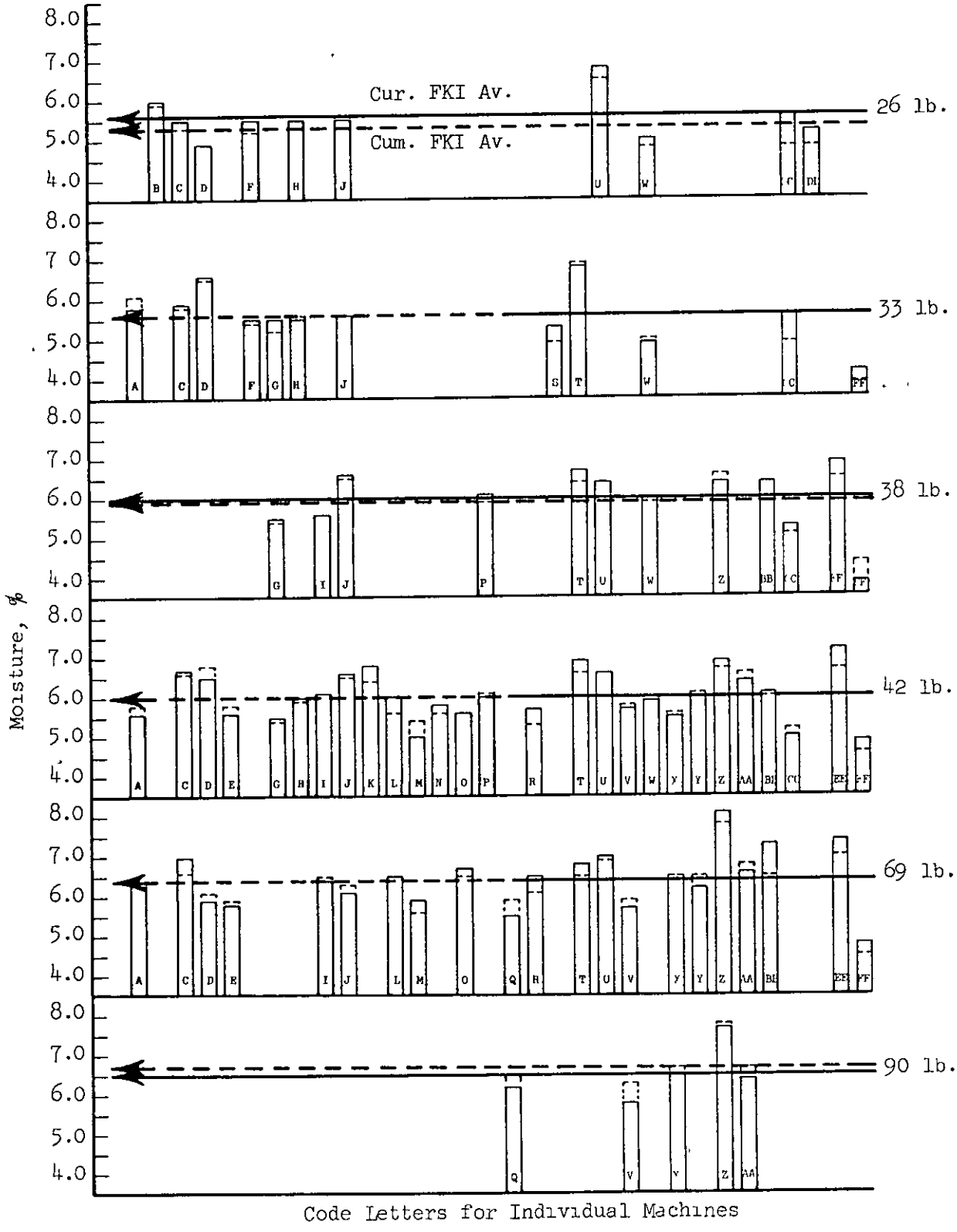


Figure 5. Comparison of Moisture Averages for July, 1966

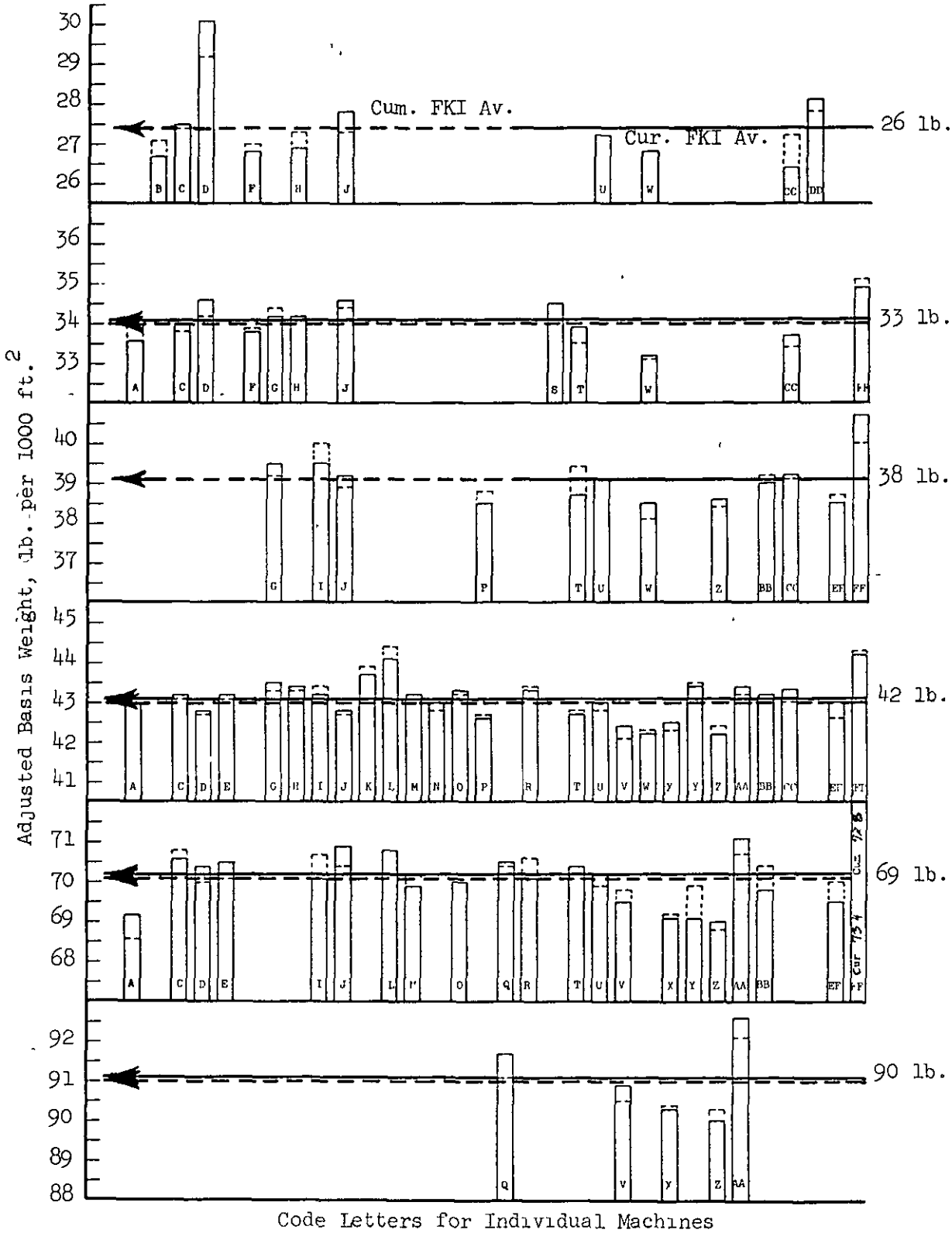


Figure 6. Comparison of Adjusted Basis Weight Averages for July, 1966

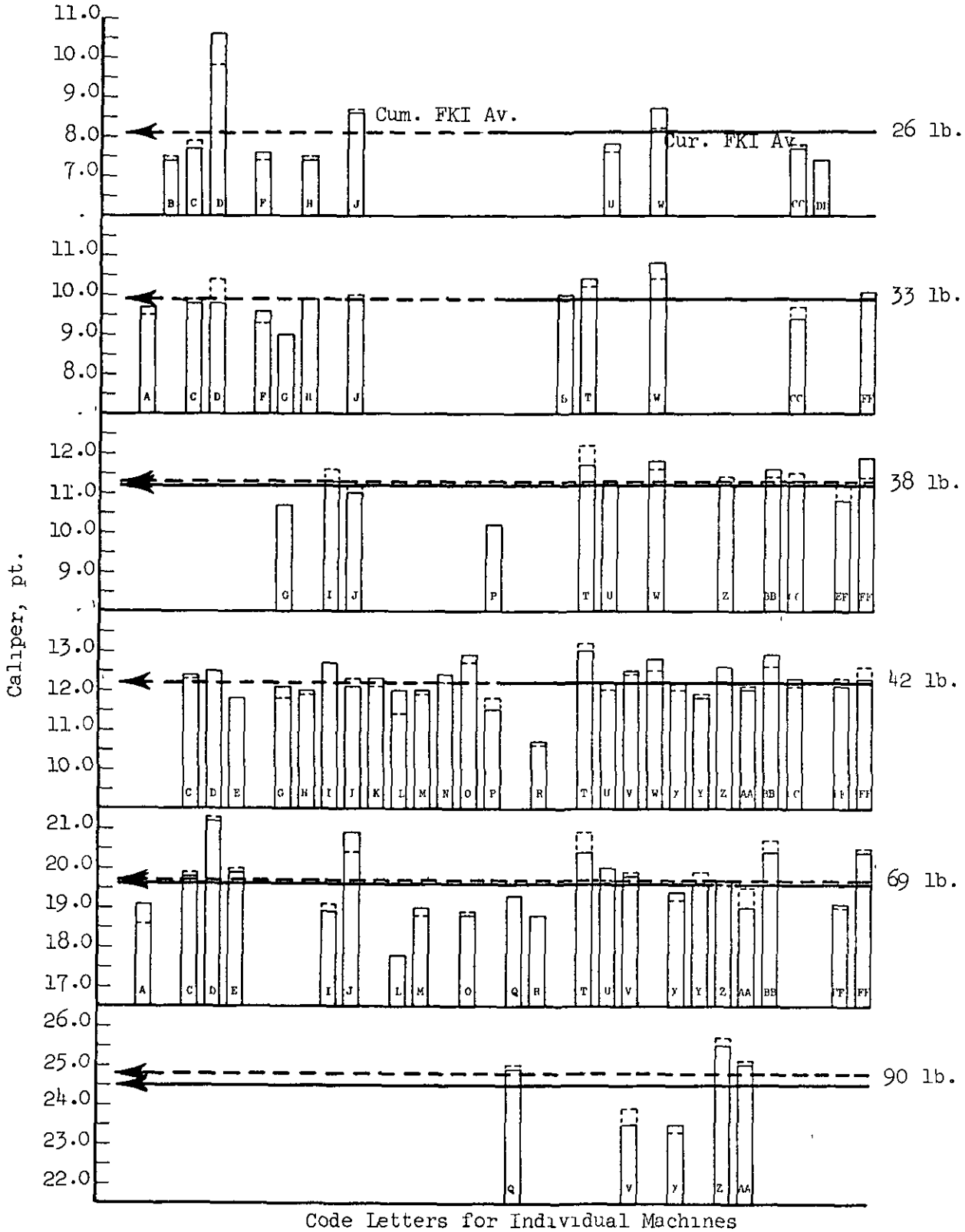


Figure 7. Comparison of Caliper Averages for July, 1966

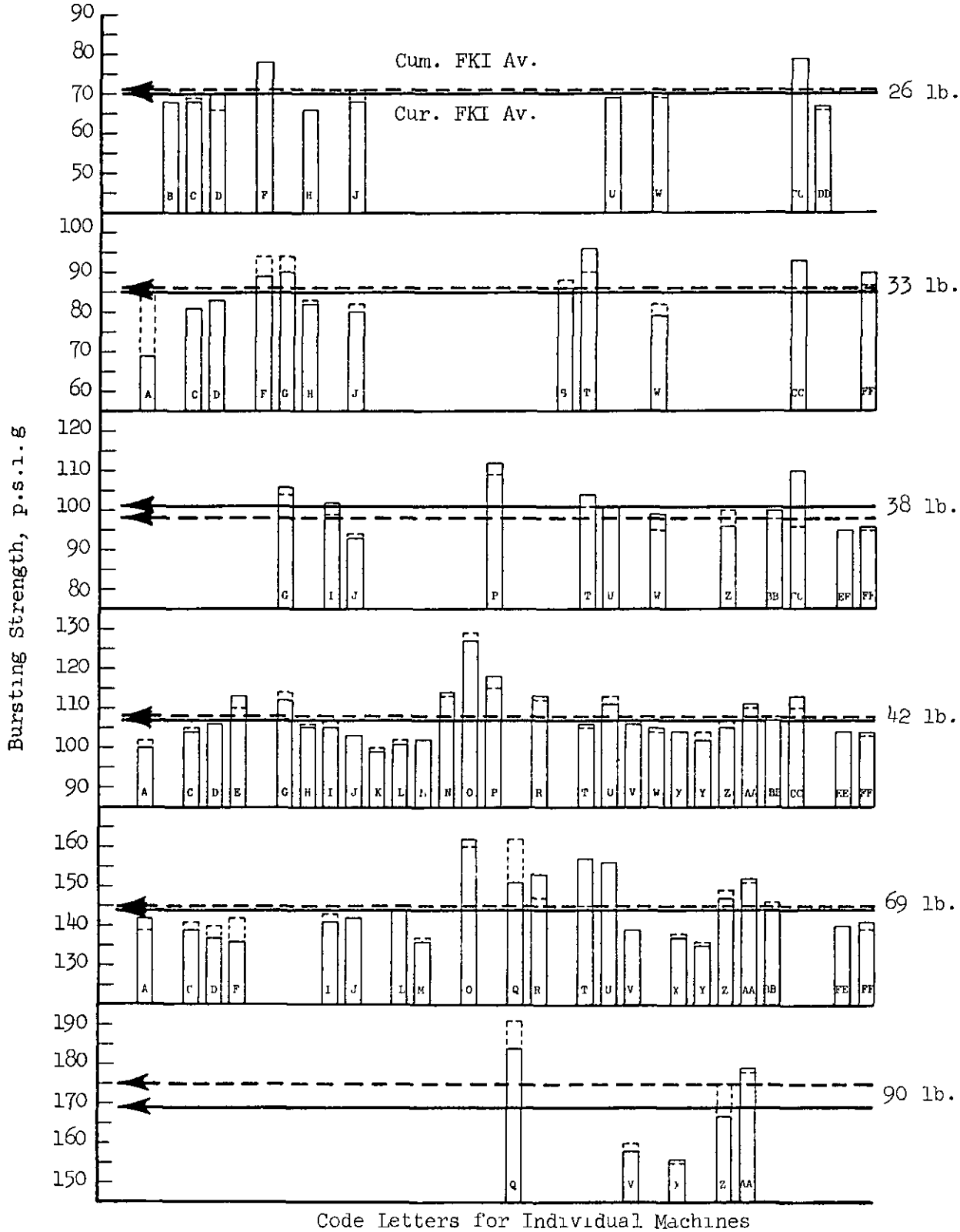


Figure 8. Comparison of Bursting Strength Averages for July, 1966